



Project Title: 24/7 Medicine Supply System

Group Number: 04

Group Members:

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1. Introduction

Average Bangladeshis spend a significant amount of income and time on medicine. Most of the people of our society buy medicine from the local Pharmacies. They need to go to medicine stores to buy the specific medicine prescribed by the specialized doctors and sometimes these prescriptions are mostly hard to read. Sometimes all prescribed medicines are not available in local Pharmacies for which it becomes nearly impossible to get the desired medicine. It is very time consuming and people need to spend money as well for this. At the same time, most of the pharmacies are closed at night but sometimes in an emergency it becomes hard or even impossible to find the desired medicine. A lot of people die for this unfortunate circumstance. In this case an online web based e-commerce medicine delivery system is mostly needed. It will save time and will make life even easier. At the same time it will be an amazing marketplace for those wholesalers who want to trade online.

2. Motivation

We have got such motivation to build this medical store from some pathetic scenarios of the society. Most of the people have witnessed the fact that, lot of time it becomes nearly impossible to get emergency medicine at midnight and if there is any need of first aid service, mostly people can not find any medical experts to help. A huge number of people die as well for the lack of proper treatment and medicine at midnight. So our goal was to help those helpless people. At the same time our goal was to make a marketplace where the customers can buy their desired medicines and at the same time the wholesalers can trade too. It will help a lot of emergency patients to get their desired medicines and at the same time if any kind of minor injuries happen, people will easily get cured by our experts' team.

3. System Request

- **Project Sponsor:**

Rezwana Choudhury Raka, Chairman , 24/7 Medicine Supply

● **Business Need:**

This system will work for general people who need medicine on an emergency basis anytime (24/7) . An application by which people can also order medicine on pre-order . Besides, people also can take help of first aid in an emergency, people can use a hotline for any queries as well. A system for general people which will give 24hours medicine service all day, all night anywhere in Dhaka city. Since there will be wholesalers in our system & people can also buy medicine from them, we will be able to gather all kinds of medicine in the system, in this way the company will do better in different sectors, other companies will also invest in the system for selling their medicine.

● **Business Requirements:**

There will be two types of users in this system – wholesalers and customers. The wholesalers are the users who will list their medicine to the system. On the other hand, customers will buy medicine from the system.

1. Users can login with their own account(they can give permission for phone number & location access).
2. A user can search their prescribed medicine & then can order directly if they are available in any shop of Dhaka city.
3. There will be a feature named chat. If users cannot read or understand a prescription , they can upload it in chatbox , an operator will let them know if the medicine is available ,will make sure if a customer wants to order & after confirmation they will send a delivery man with their necessary medicine.
4. Emergency Hotline Service.
5. Pre-order service (also applicable for foreign medicine).
6. If a customer wants Business to Business(B2B) service , he/she can purchase the product(medicine) wholesale.

● **Business Value:**

This company is mainly for providing medicine to the general people , our main purpose is to help people whenever they need medicine from any place of Dhaka city. Therefore, our company is mostly non-profitable one.

Conservative estimates of tangible value to the company include the following:

- Medicine: 10,000USD
- First-Aid: 5000USD

- Advertisement: 15,000USD
- Commission : 8,000USD
- Delivery : 2000USD

Some of the intangible values are:

- Improved Customer Service
- No fixed time schedules can be accessed at any time.

- **Special Issues or Constraints:**

- Since all the users are providing their personal information (phone number, email address, location etc.) & it is stored in our database (by which we will create a profile for the regular customers, if they buy medicine on regular basis a point will be added in their account & using this points we will announce discount on medicine if that user further buys medicine), this information are something that is highly secured & classified, so gaining access to that database is a constraint for us.
- Since we are importing medicine & providing it to the customers ,it can be a little bit challenging for our system to provide medicine to the consumers if the shipment is off for any particular reason (e.g. during Covid-19 shipment was off for around 1 year).
- System bug (if the website crashes for technical reasons, it may happen that we have to stop providing medicine for a particular time).

4. Requirement Analysis

5.1 Functional Requirements:

5.1.1 Account Management:

- The system will allow anyone to join as a vendor or create an account as a customer; however, even without an account, a person can use the app to buy medicine without

making a profit.

- The system will allow users to log in with their mail addresses/phone numbers and passwords.
- The system will allow users to provide their location.
- The system will send verification/confirmation mail after every login and Buying medicine.
- The system will record users' all data.

5.1.2 Sellers Account:

- sellers will be able to list all of their medicines and add any new items.
- Sellers will be able to view their list.
- Sellers need to update product(medicine) availability daily.
- Sellers can see their order list, confirm it and proceed with shipping.
- Sellers have the option to modify or update their profile.

5.1.3 Customer Account:

- Customers can see all the available medicine by using the search bar.
- Customers can check their cart and confirm their purchase.
- Customers will be able to access and edit their personal information.
- Customers will receive two options for making payments: cash on delivery and digital payment.
- Customers can track their orders by clicking the provided link.

5.1.4 System:

- The system will have an option to show the most searched medicine name on top of the search bar.
- The system will show if a medicine is available in any shop in Dhaka city or not.
- The system will have different online payment methods such as Bkash, Rocket, Nagad, Credit Cards, Debit Cards as well as Cash on the Delivery system.
- Users will be able to communicate with an operator through communication methods such as texting or calling.
- Before each purchase, the system will check the user's account and payment procedures.
- Users can attach a photo of a prescription in a chatbox for ordering medicine if they are not understandable.
- The system will have a section for users to submit any kind of feedback, inquiries, or complaints.

- Previous purchase information will also be available in the system as a history.
- Products(medicine) which are on highest sale will be shown & customers can also see the best selling medicines.

5.1.5 Notifications:

- When new products that customers favor are added, the system will alert them by tracking their search bar.
- Users will receive a fraud alert from the system.
- Sellers will get a notification whenever a new order is placed.
- Customers will be notified via mail of any kind of action from their accounts.

5.2 Non-functional Requirements:

5.2.1 Operational:

- The system should be able to run on any tool like desktops, laptops, mobile phones, tablets.
- The system should cooperate with any running gadget like windows, android, ios, etc.
- The system should be capable of painting from any net browser which includes Firefox, Chrome, etc.
- The system will be designed by Python for its ease and appropriate readability.
- The system must ensure smooth accessibility of products, purchaser care, and service with performance and reliability.

5.2.2 Performance:

- The system should help at least 15 customers at a time
- System overall performance is all approximately making web sites speedy which includes making slow processes seem fast.
- The system has to ensure scrolling is smooth, buttons are clickable, pop-ups are brief to open up, and that they animate smoothly.
- The system should not show any unnecessary ads using the application.

5.2.3 Security:

- A customer's personal information should be protected by the system.
- The system should ensure third-party services are prohibited from the system and enforce strong password requirements for every sign-up. Updates often contain security enhancements and vulnerability repairs so software and plugins should be kept up to date
- The system should not allow one user to create a double account.

5.2.4 Cultural & Political:

- Users' personal information is included in compliance with the Data Protection Act.
- The system should be in both English and Bangla languages so that users can choose which one they prefer.
- There isn't any age restriction for the usage of this application.

5.2.5 Usability :

- A proper user interface should be maintained by the system. For instance, clicking buttons and going to distinct pages from a cell phone need to be as visible and clean as a different computer or pc gadget.
- Fonts, size, and browsing to different hyperlinks from all distinct gadgets need to be maintained equally.
- The layout needs the gadget flexible and adjustable automatically as the display screen size is reduced.
- The core of usability is clarity. So, simplicity, consistency, and good information architecture need to be adapted.

5. Project Scenario

This system will supply medicine & emergency first aid service to people all day, all time. There are four types of actors in the 24/7 Medicine Supply System. The primary actors are Wholesalers and Customers where Account management and System acts as secondary actors who will allow wholesalers and customers to register and create an account to the system as individuals. The criteria to register or create an account is giving a mail address and a strong password or only

with a phone number. While giving a phone number, the system will want access to their user's location. After registering or having an account, users will be able to log in with their own mail and password through verification by the account management. This will give verification mail after every login and purchase to the user. Users need to log in to access their accounts and save their information. The user will be able to choose the account type in every registration, for instance, if it's a wholesaler account or a customer account. The users will get the option to choose their preferred language, either English or Bangla.

After a successful log-in, wholesalers can list their goods and add their items by different categories to the website. They can edit or update the product information as well as their profile, and can see their order list. After confirming the order by system, customers may make the payment or choose to be paid on delivery. After the customer's payment approval, the system can proceed with the shipping process and must assign a tracking number to the customer for each shipping. System & wholesalers have to update the availability of products from time to time. They can reply to messages of the customers' inquiries directly. Besides, customers can order via text message, they can also attach a prescription in the textbox if they can't understand what is written on the prescription. The system manager will reply to customers & confirm their order. Whenever a new order is placed, the system will get a notification regarding this. On the other hand, after customers log in, they can view the products or search an item by category and add them to the cart. Besides, they will be able to see the most popular items on the website and can add them to the cart directly from those. Before confirming their purchase, they can recheck the cart and confirm the availability. Only after the system confirms the availability of that product and the seller confirms the order, customers proceed with payment. They will receive two options for payment as in they would like to proceed with online payment or cash on delivery. They will get a confirmation mail as soon as their purchase is confirmed. Furthermore, customers can edit their personal information any time before confirming their purchase. The system will give them a notification whenever a new product is added to the system. Customers also get the facility of tracking down their products with the tracking number and with the help of the provided link from the shop system. Moreover, customers can order medicine on pre-order if the medicine is not available at any shop or they might be imported from outside. They can also take medicine from wholesalers as well.

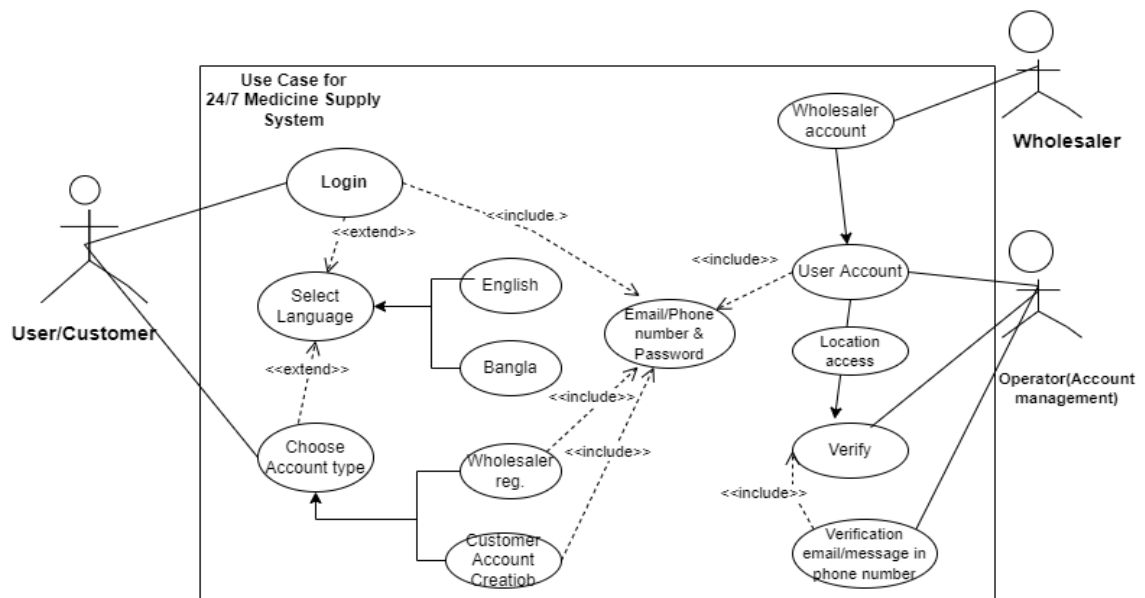
Customers will also get first aid service from the system, they can get a first aid service by texting the system or there will be an option for first aid service, by selecting that option, system will get a notification & call the customer for first aid service confirmation & other details (e.g. location / address). The website system will keep the records of all data of the users as well as previous purchase history from the same account also. Besides, the system will have a function to keep track of the most popular items purchased, most requested or searched items through the search bar and it will appear on the front page of the website. Moreover, the system will show different online payment methods after every confirmed order. The system has the

helpline bar of texting or calling which can be accessed by every customer for any kind of help or issue. Both the users can submit feedback or any complaints using their account. It verifies payment procedure before every purchase and gives a confirmation mail for each purchase. Therefore, the system gives notification to the seller account after placing a new order and to the customer account for adding new products to the system. Furthermore, it notifies users if there is any fraud alert or spam issue occurs.

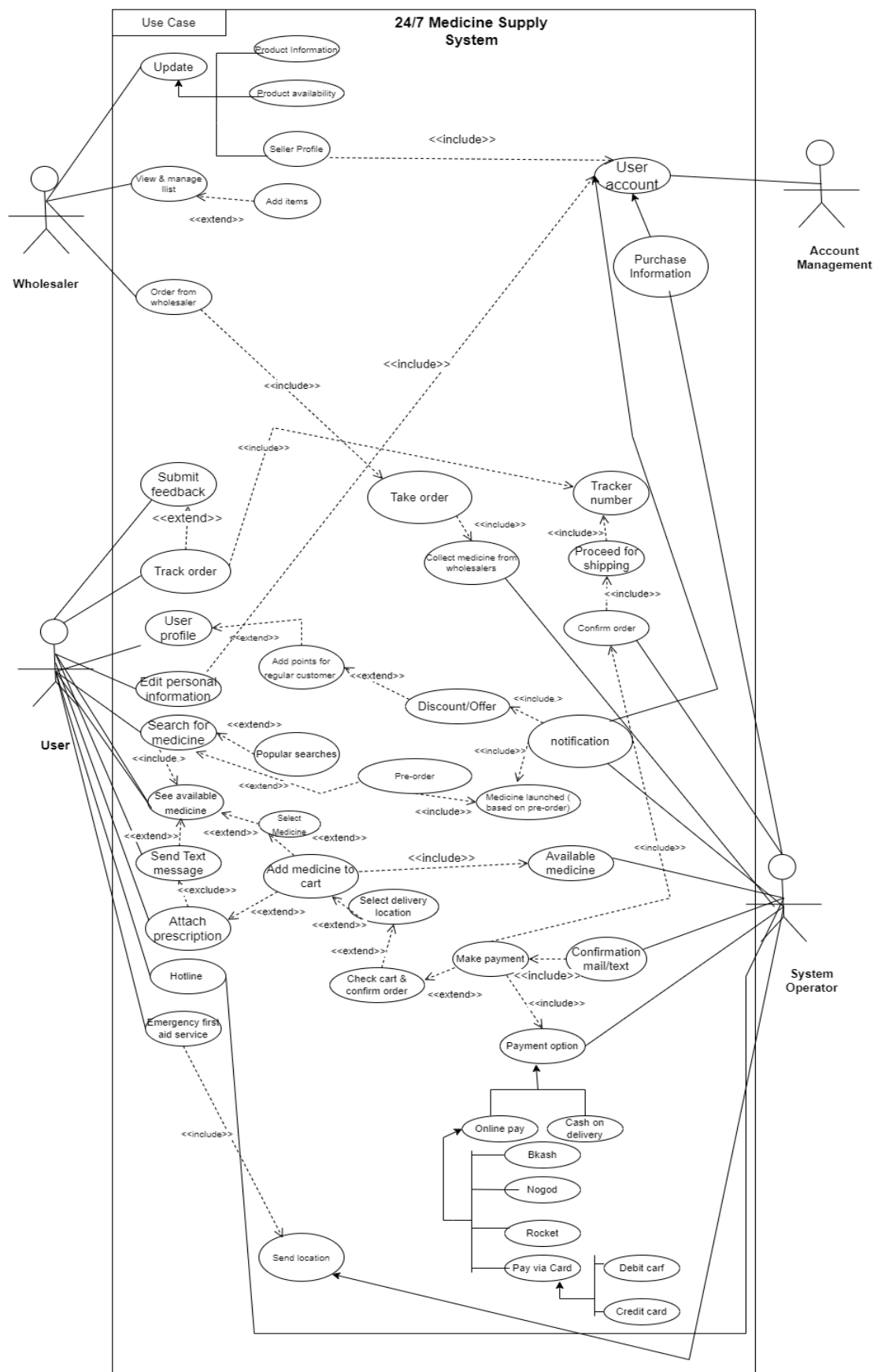
6. Design Diagrams

Use Case Diagram :

Use case stands for Unified Modeling Language. A use case diagram is a visual representation of the details of a system and its users. Usually, it is represented graphically as a portrayal of interactions between various elements in a system.



Use Case Diagram-Part 1

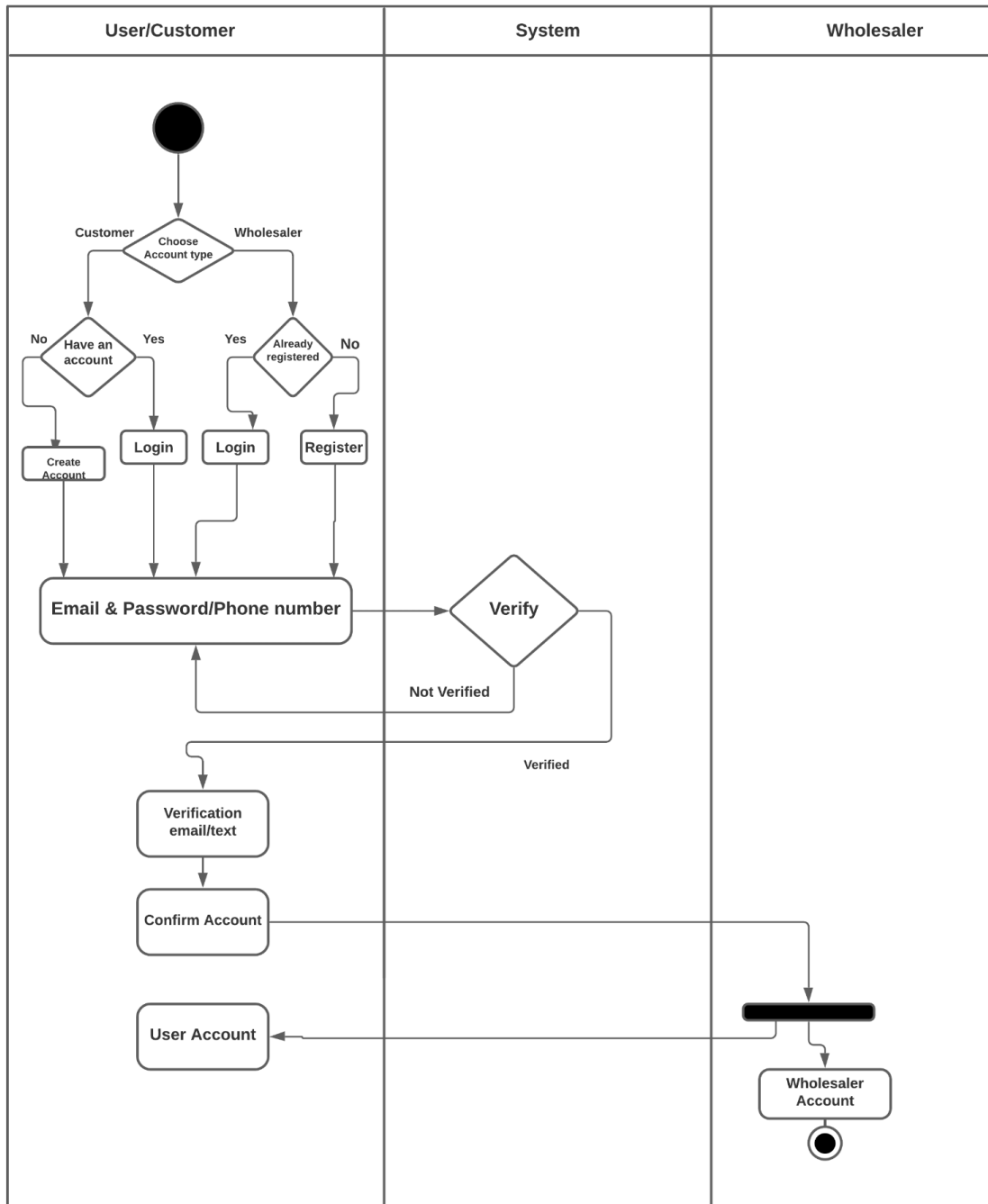


Activity Diagram:

An Activity Diagram is one of the Behavior diagrams. Activity modelling is the sequence and conditions for coordinating lower-level behaviors, rather than which classifiers own those behaviors. These are commonly called control flow and object flow models.

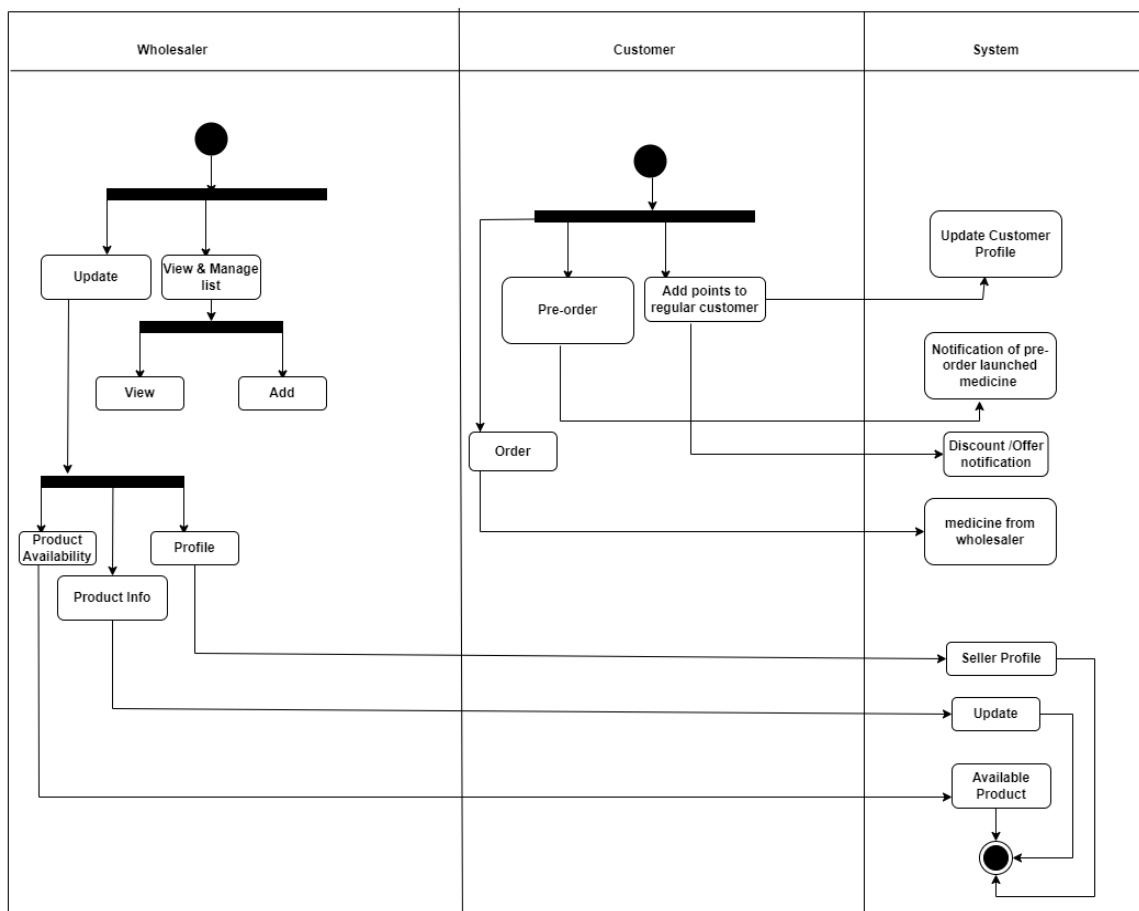
Activity Diagram for
24/7 Medicine Supply
System

For Account Management

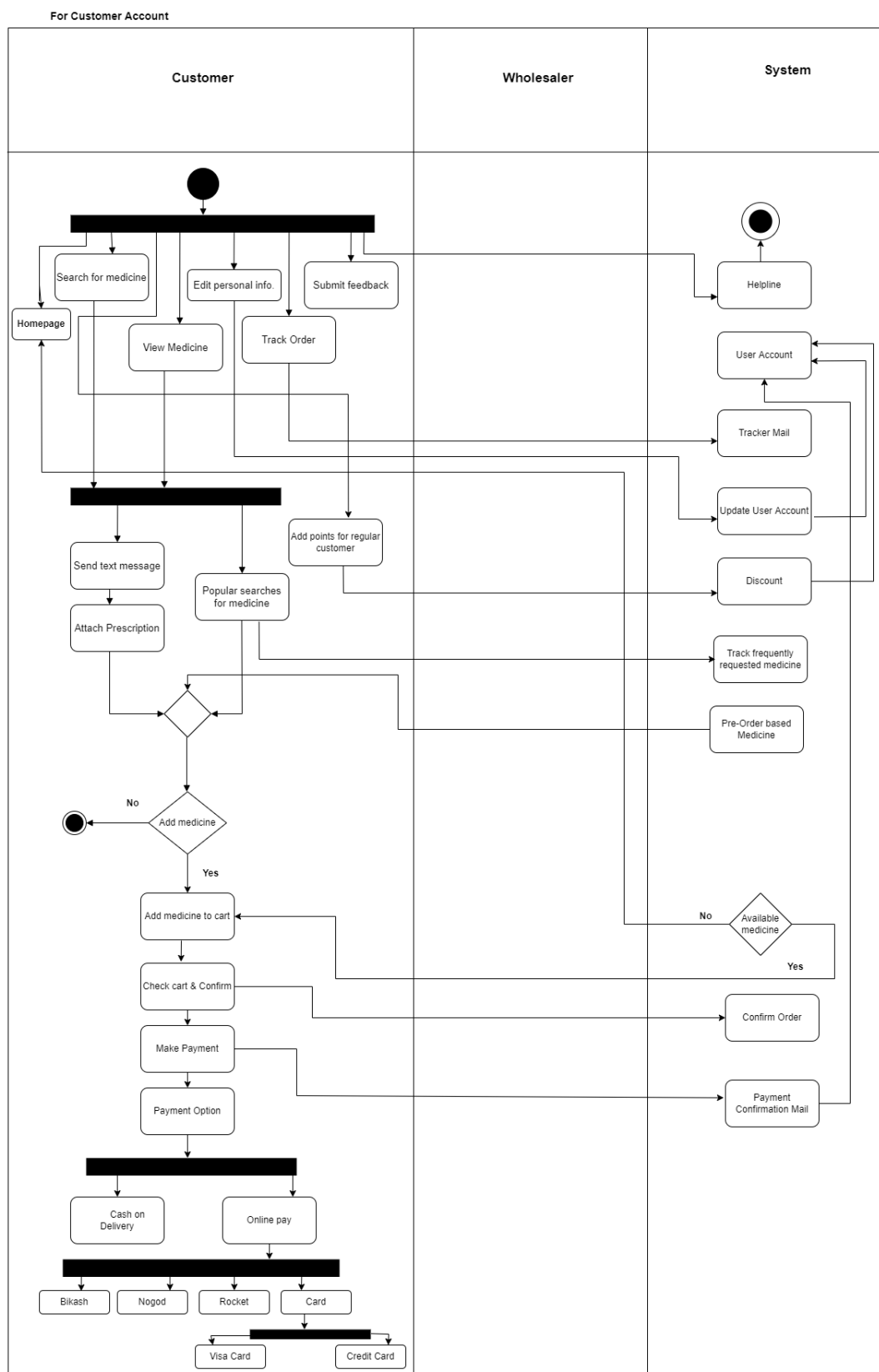


Activity Diagram for 24/7 Medicine
Supply System

For Wholesaler Account

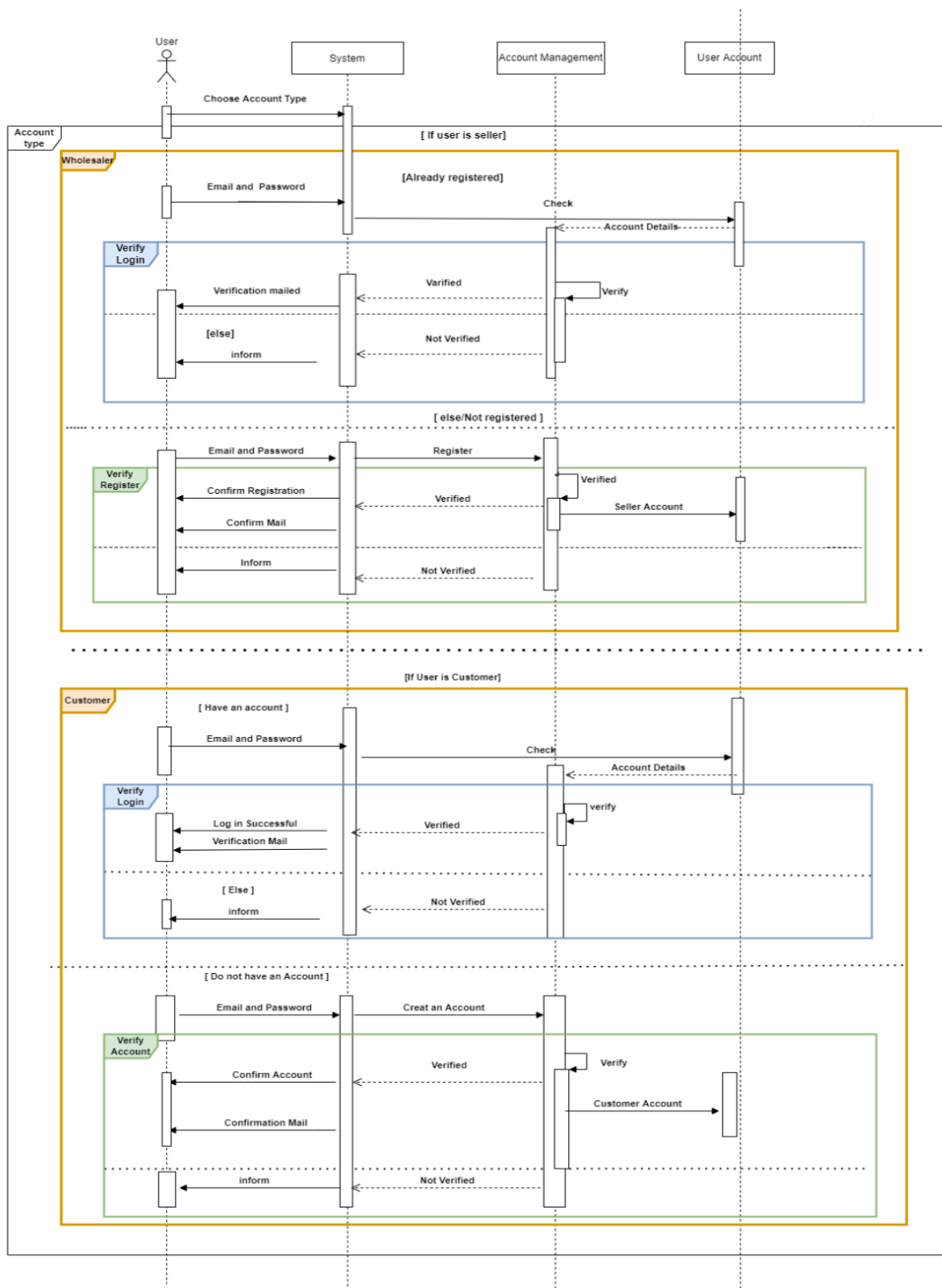


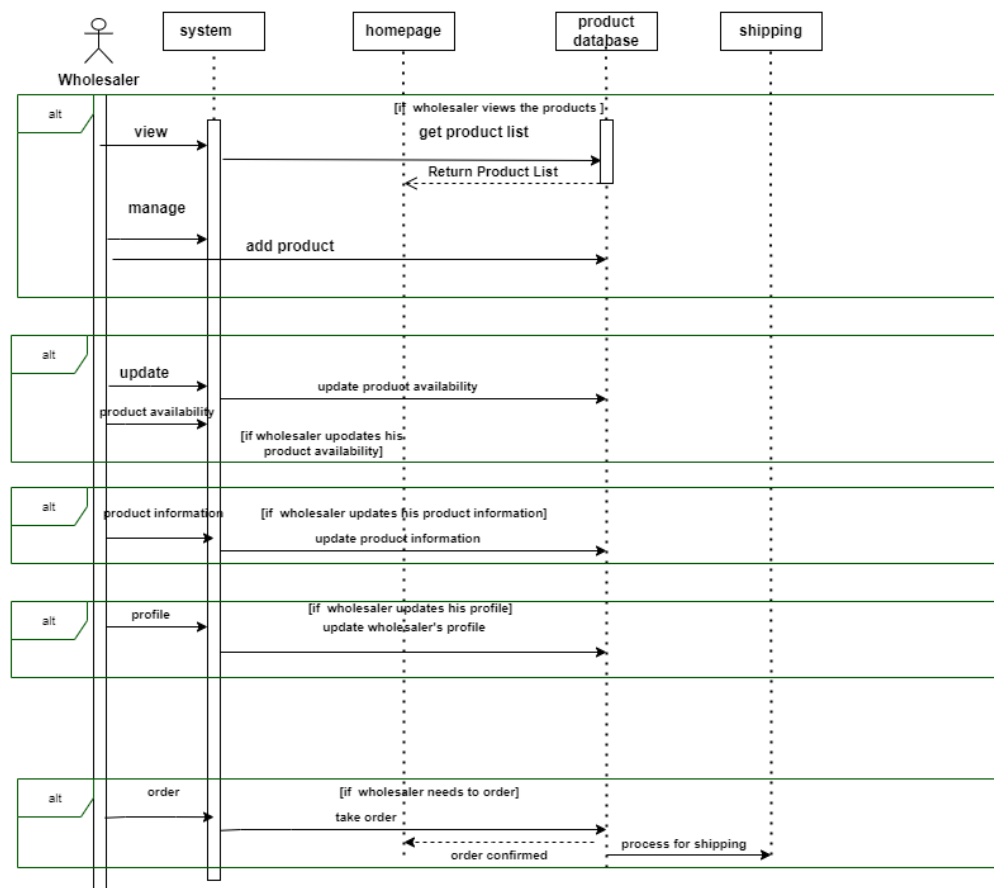
Activity Diagram for 24/7
Medicine Supply System



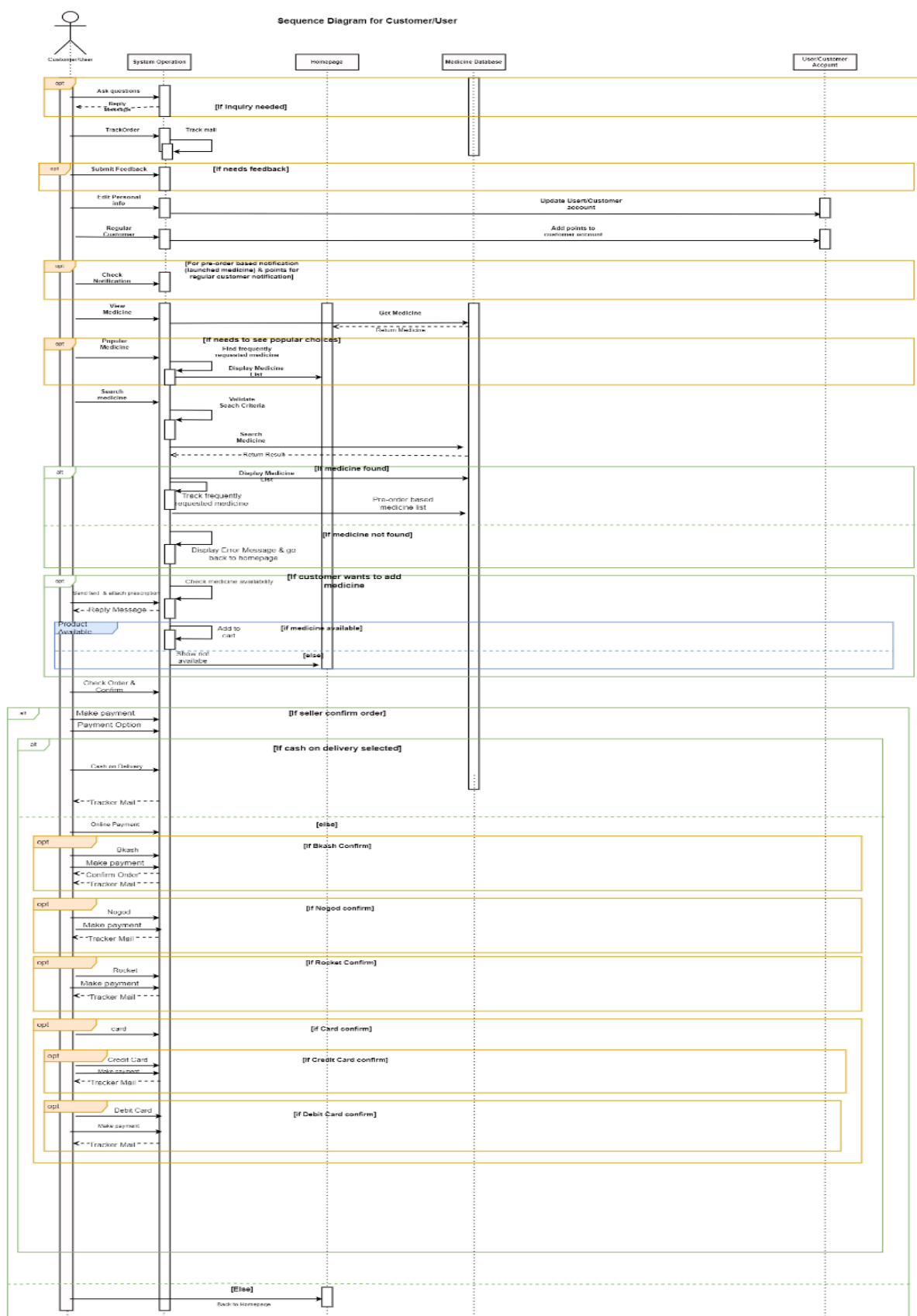
Sequence Diagram:

A sequence diagram is a sort of interaction diagram that shows how a group of items interacts and in what order. A sequence diagram is made up of a group of objects connected by lifelines, as well as the messages they exchange over time during the interaction.



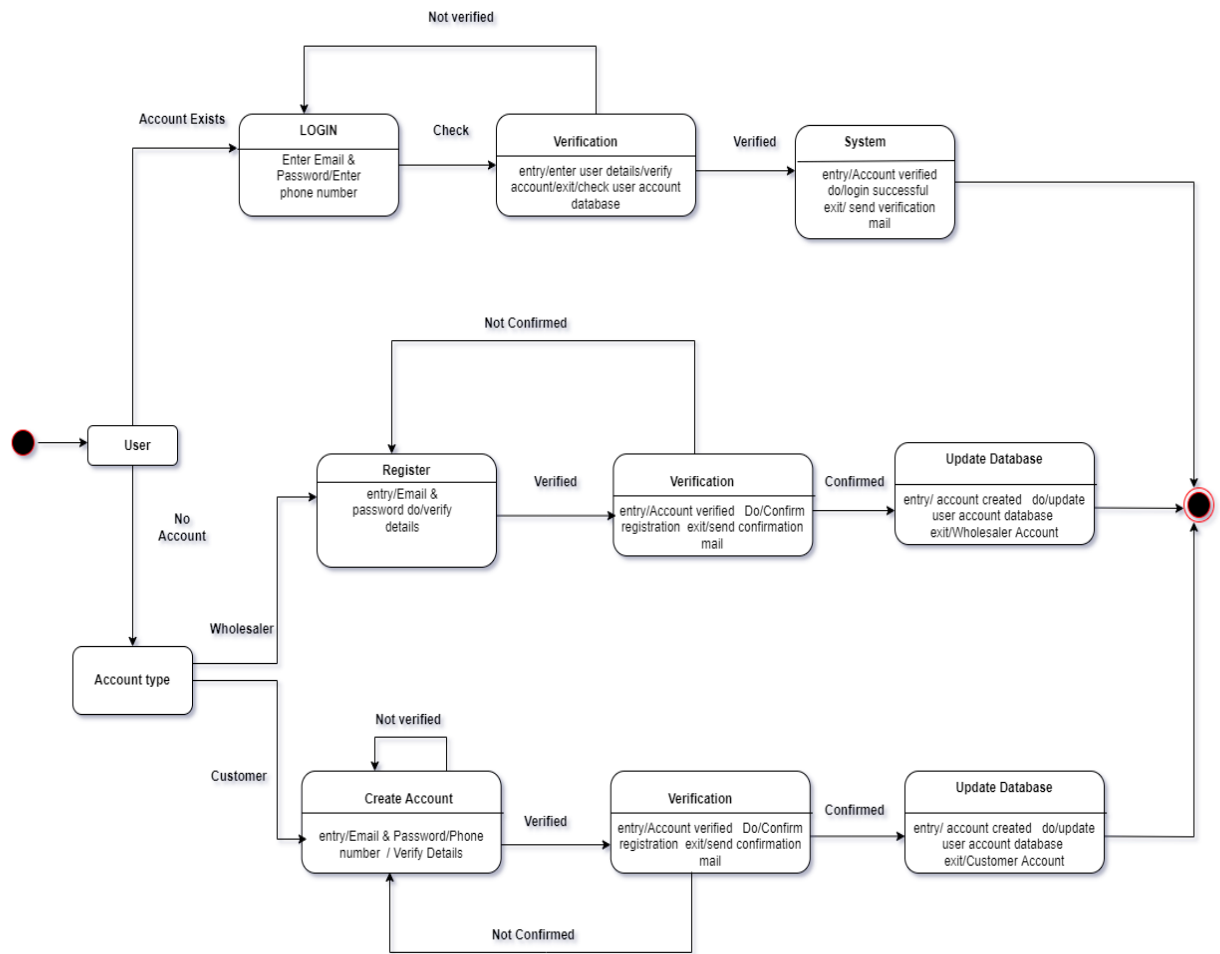


Sequence Diagram for Wholesaler Activity

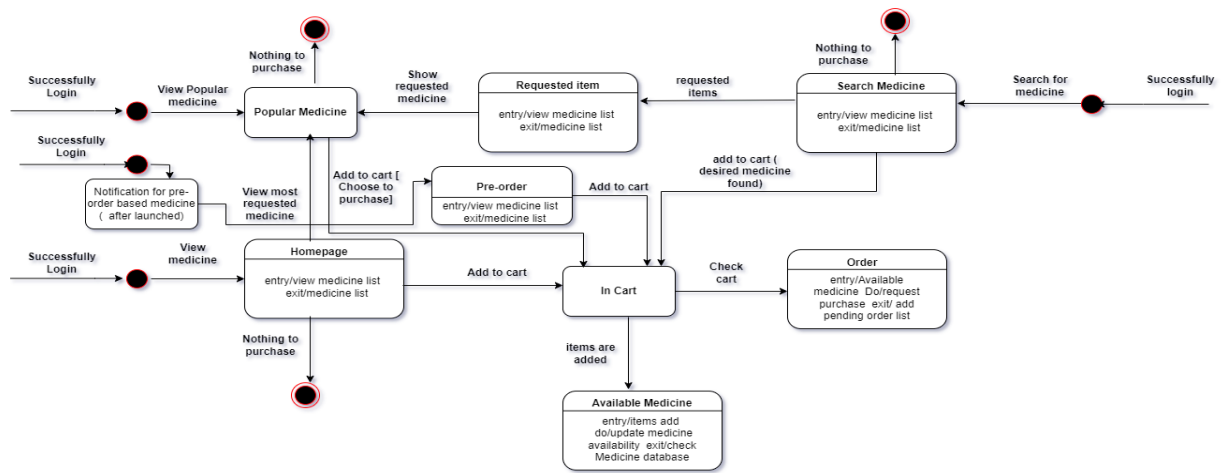


State Machine Diagram:

State Machine Diagrams depict the major events and states of an object, as well as the object's behavior in response to an event. Transitions are shown by arrows that are identified with the event they represent. The states are represented by rounded rectangles.



State Machine Diagram of Account Management System



State Machine Diagram for customer adding medicine

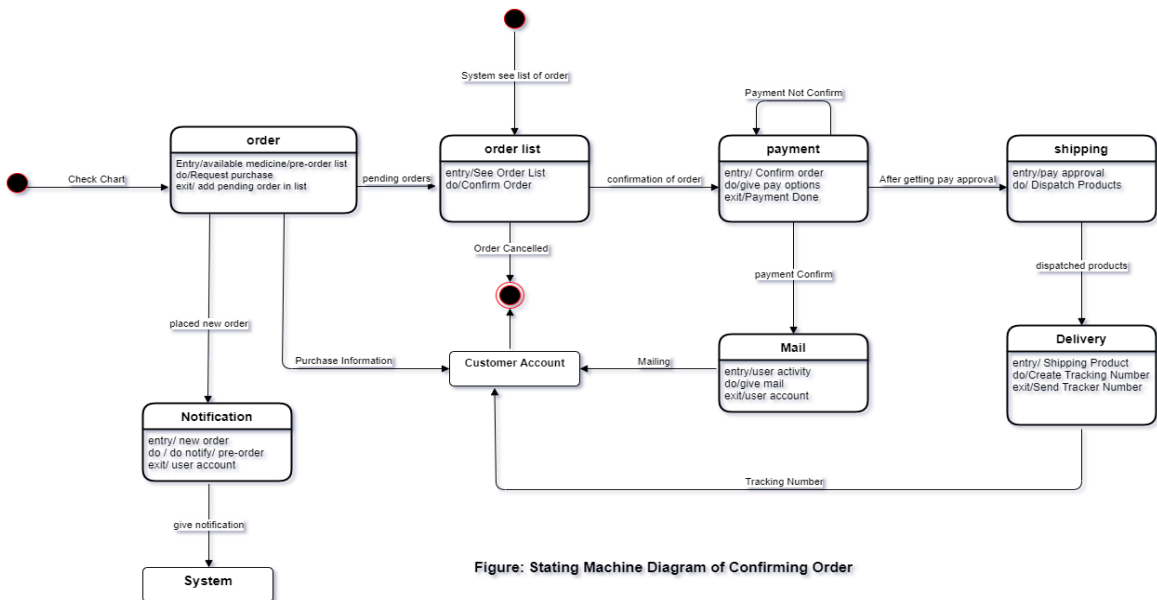


Figure: Stating Machine Diagram of Confirming Order

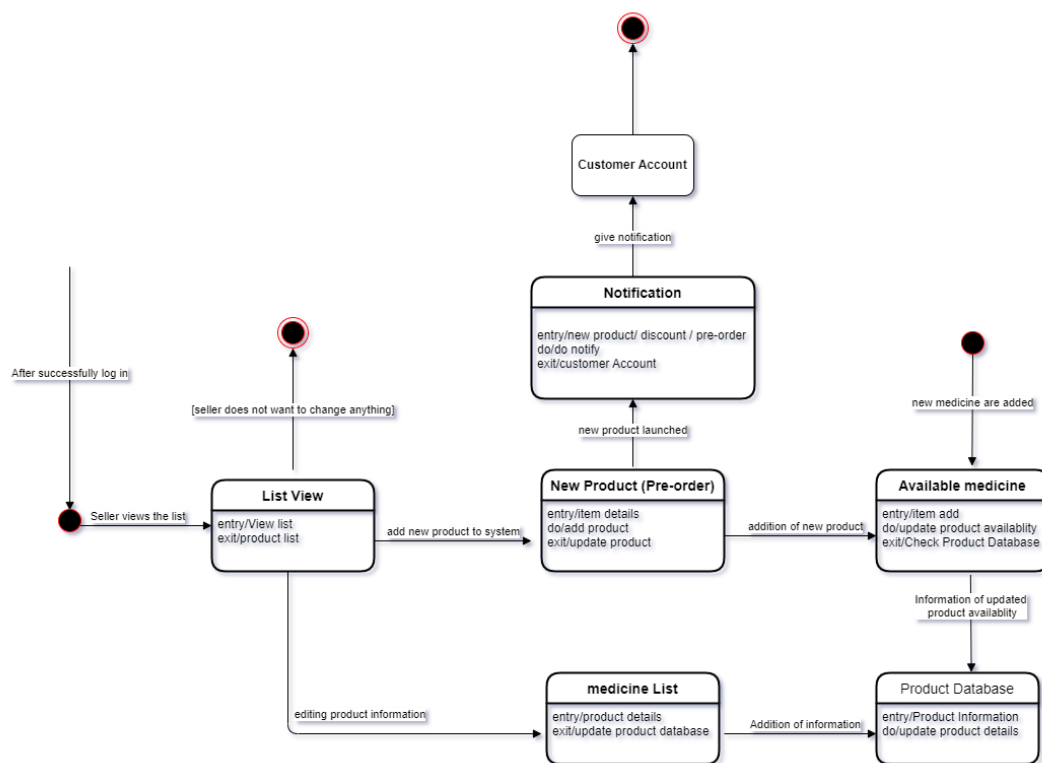
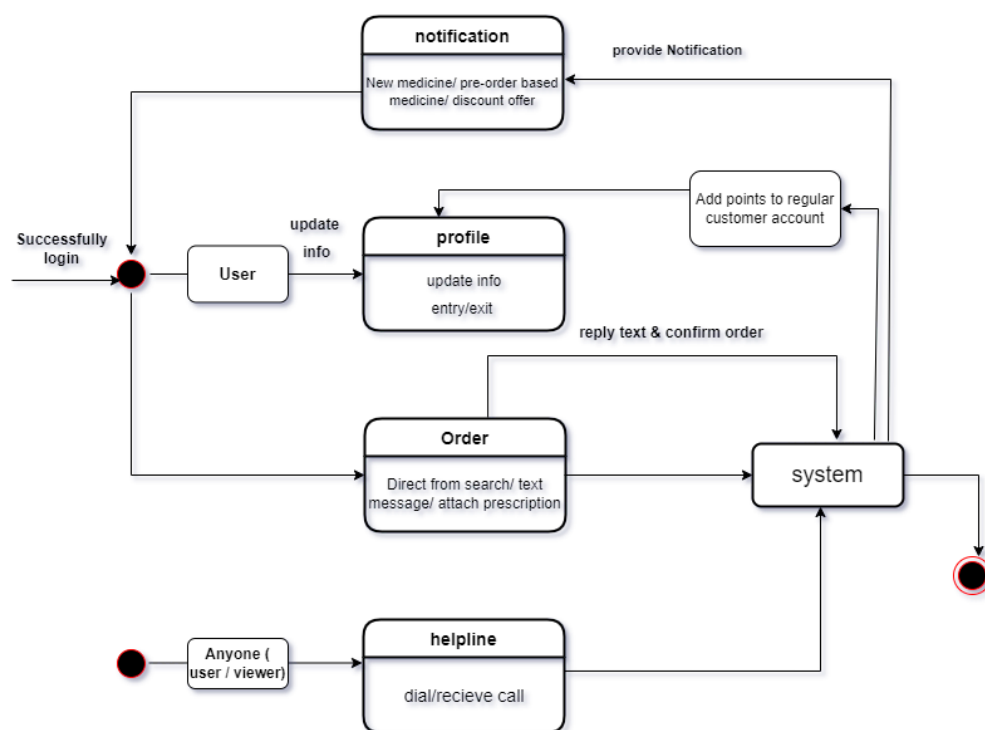
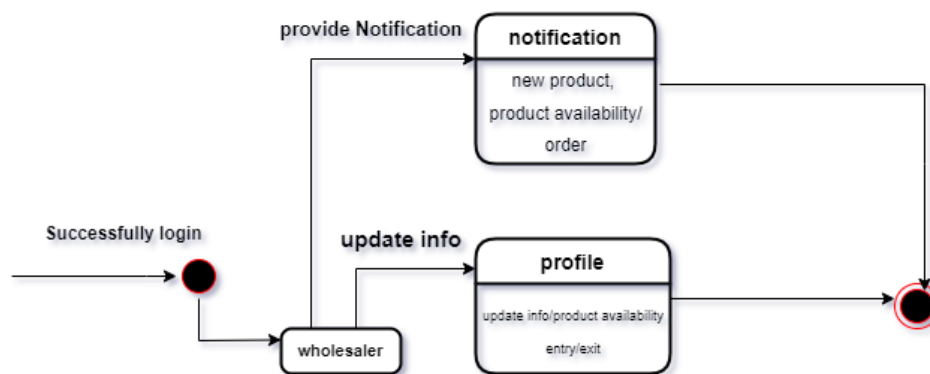


Figure: State Machine Diagram of Product Database



State Machine Diagram for User Account

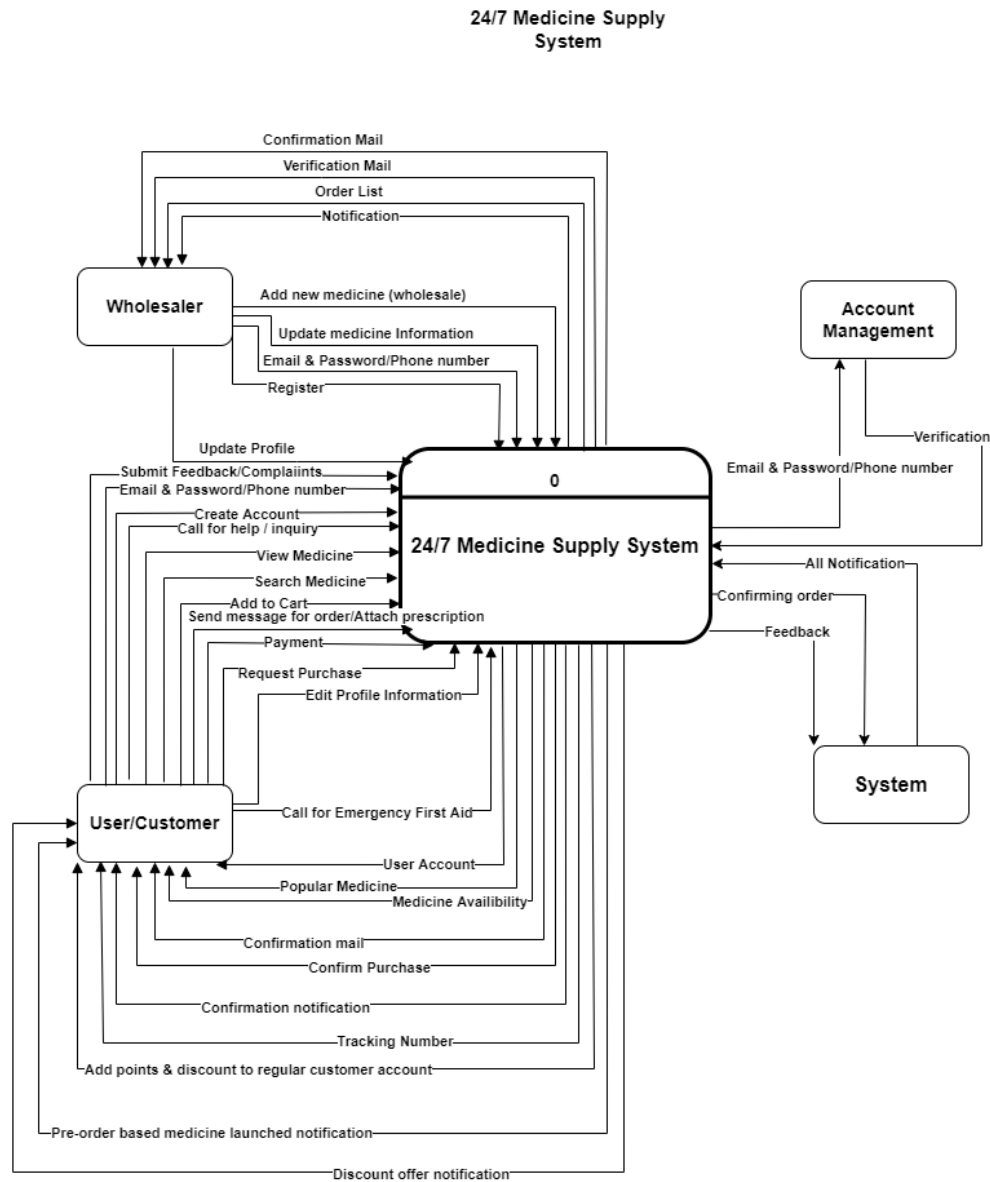


State Machine Diagram for Wholesaler

Data Flow Diagram:

A Data Flow Diagram (DFD) is a graphical representation of data "flow" through a computer system and depicts how information flows through a process or system.

Context Diagram:



Data Flow Diagram (Context Diagram)

Level 1 Diagram:

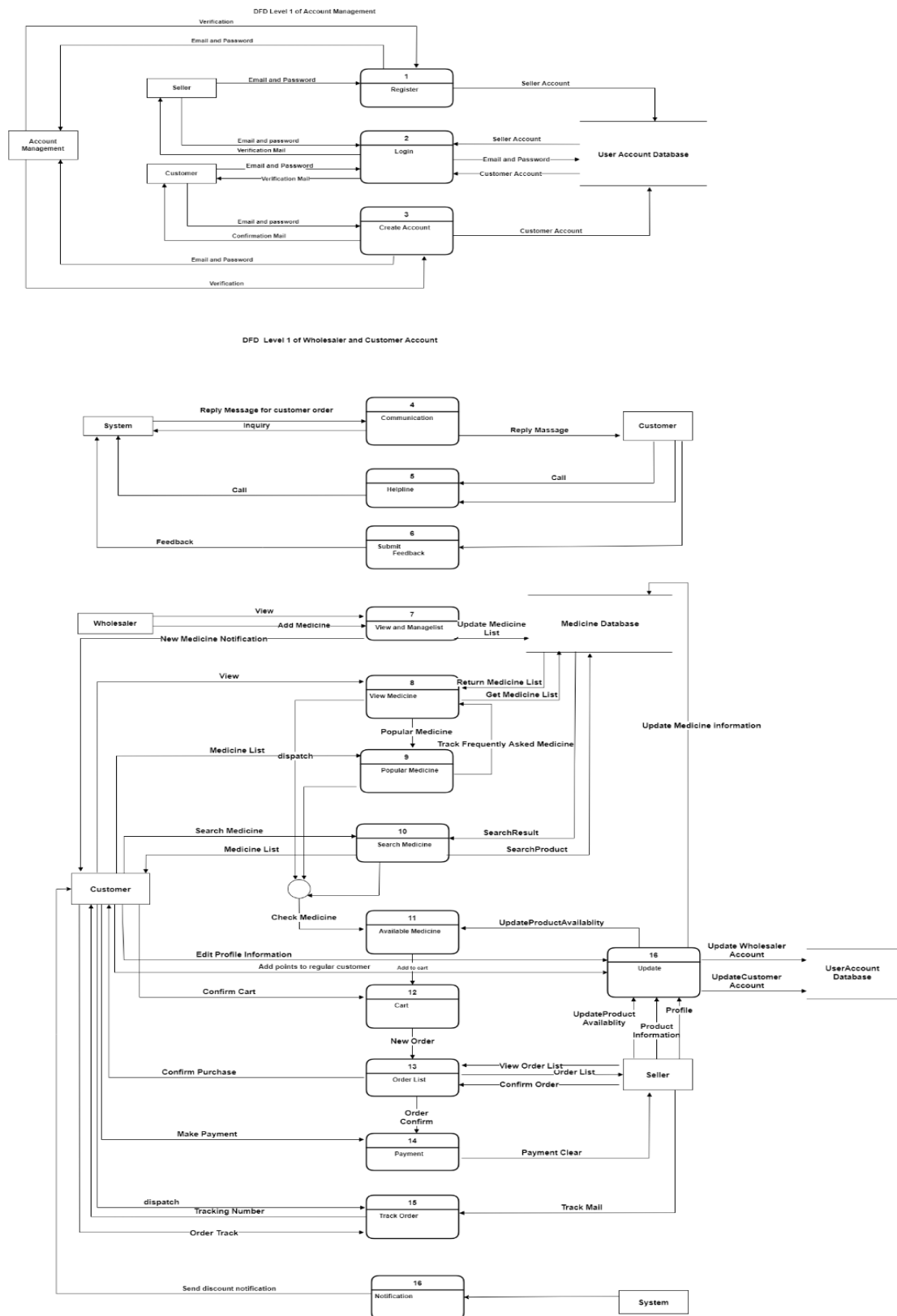
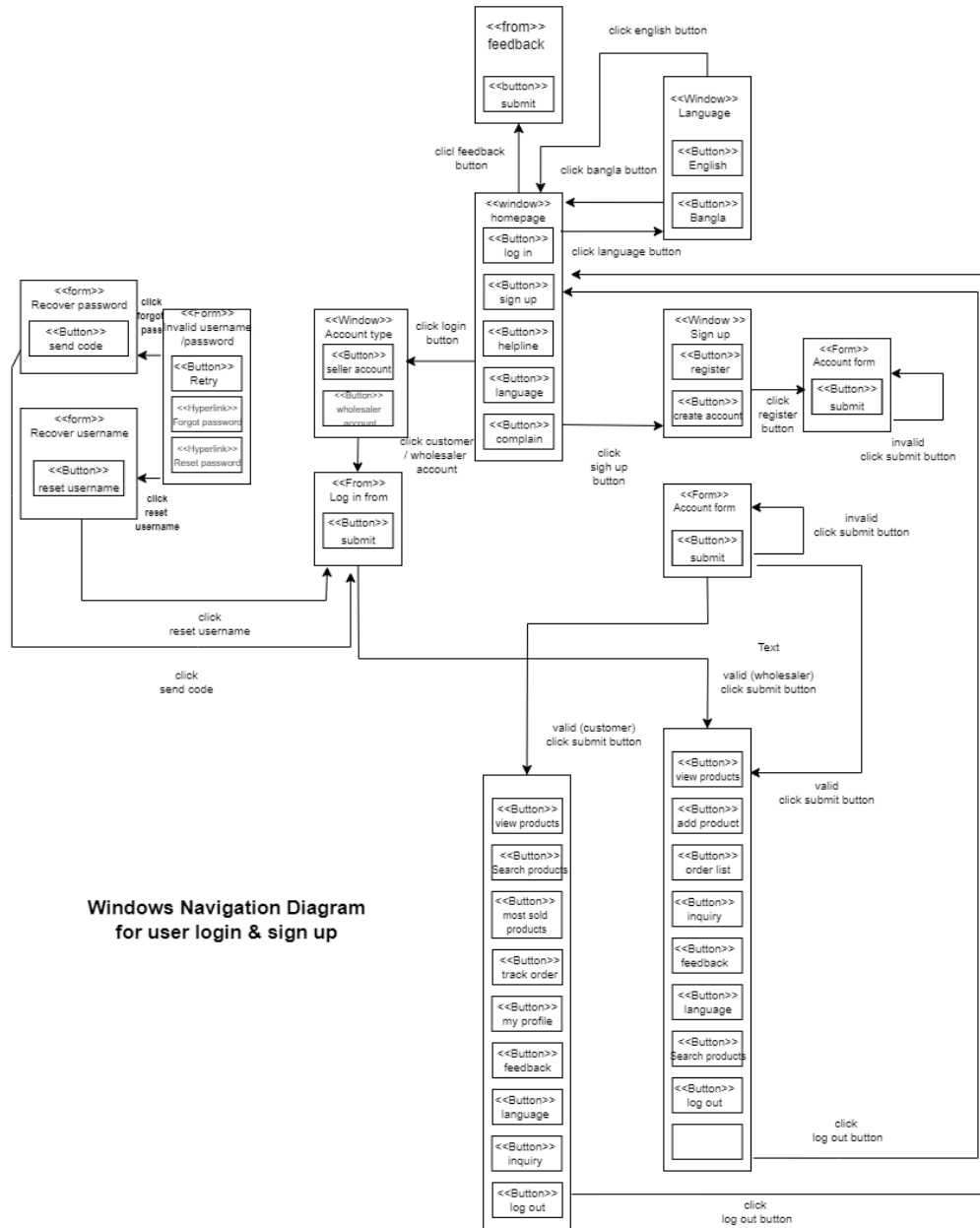
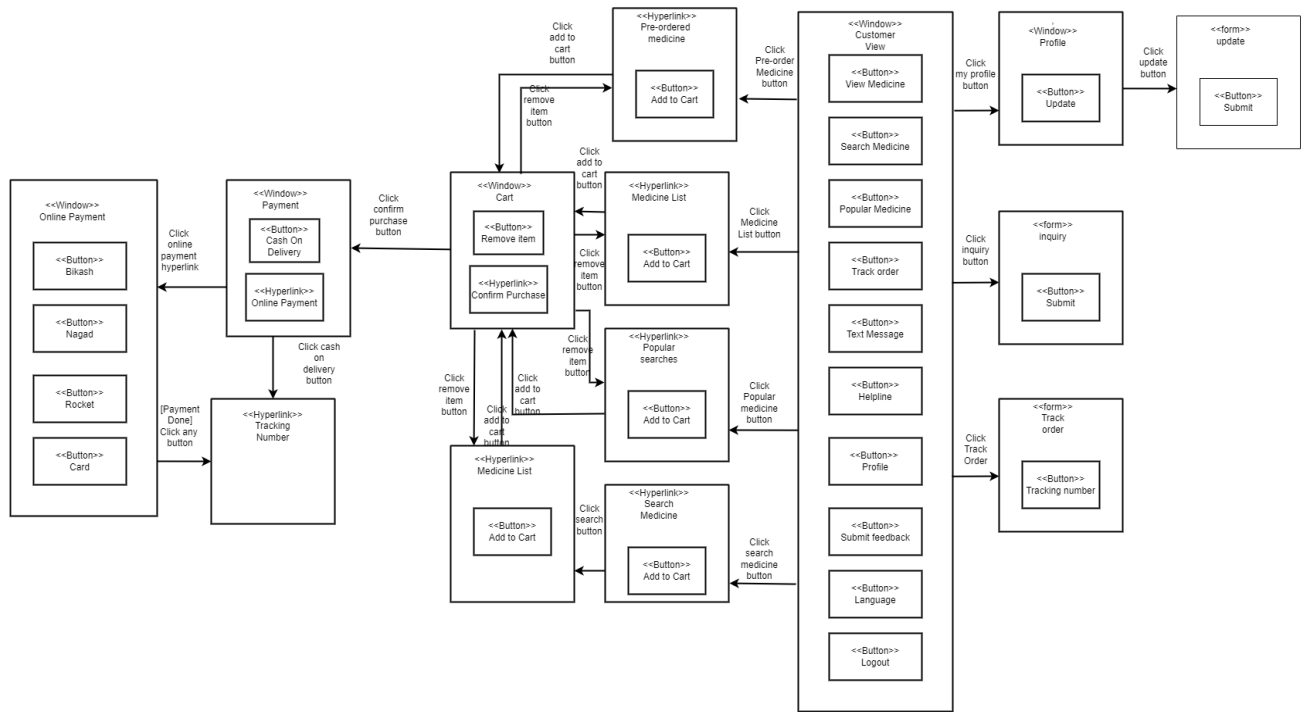


Figure: Data Flow Diagram Level 1

Windows Navigation Diagram:



**Windows Navigation Diagram
for user login & sign up**



Windows Navigation Diagram for Customer Activities

7. Conclusion:

24/7 medical service is very easy to use and convenient for both buyers and wholesalers. At the same time it is very helpful when someone needs emergency medicine anytime and anywhere. It will help to prevent unwanted circumstances which happen because of the lack of medicine. If any medicine isn't available in the medical store or if the store is off then it is the only way. So 24/7 medicine service can make life easier and better.